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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to the Arguments filed on 12/11/2007. Claims 1-

15, and 20 remain pending and have been examined. The Applicants' amendment and

remarks have been carefully considered, but they are not persuasive and do not place

the claims in condition for allowance. Accordingly, this action has been made FINAL.

2.   All previous objections and rejections directed to the Applicant's disclosure and

claims not discussed in this Office Action have been withdrawn by the Examiner.

Response to Arguments

3.   Applicant's arguments, see pages 2-6, filed 12/11/2007, with respect to the

rejection(s) of claim(s) 1-15 and 20 under 103(a) have been fully considered and are not

persuasive.

As to claim 1, the Applicant argues that the teachings of Brotman (889) are

inconsistent with those found in Brotman (990). Specifically, the Applicant states that

the Brotman (889) reference starts with a DTMF input and the Brotman (890) reference

starts with a spoken input. The Applicant argues that this inconsistency would not lead

one of ordinary skilled in the art to revert between the two.

The Examiner traverses these arguments. In response to applicant's arguments

against the references individually, one cannot show nonobviousness by attacking

references individually where the rejections are based on combinations of references.

See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800

F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Brotman (890) teaches

receiving a first spoken utterance indicative of an alphabet character (see Figure 1, alphabetic character input 110). Then, the system disambiguates the received utterance (see Figure 1, system prompts user 170 for DTMF input (see col. 4, lines 56-57). Further, the Brotman (890) reference states that the use of DTMF and selection of a key causes narrowing down of characters (see col. 5, lines 20-24). The system then processes the input by disambiguation using similarity metric (see col. 5, lines 29-38). The secondary reference was applied to teach the disambiguation process based on a DTMF input. Brotman (889) teaches the input of a DTMF key (see Figure 2, step 610). Again, the depression of a key causes a narrowing down of possible characters. In order to disambiguate between the set of possible characters, the user supplies an utterance of the character (see Figure 2, step 640). Hence, Brotman (889) presents another method for disambiguation of the DTMF string by the use of uttered characters in order to determine the correct character (see Brotman et al. (889), col. 5, lines 8-17). The modification of the Brotman (890) reference with the Brotman (899) teaching of DTMF character disambiguation would have been obvious to one of ordinary skilled in the art for the purpose of correctly identifying the character string. Hence, the combination of Brotman (890) in view of Meador in view of Brotman (899) teach all of the limitations as recited in claim 1.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Brotman *et al.* (US 5,917,890), hereinafter Brotman *et al.* (890) in view of Meador *et al.*

(US 5,638,425) in view of Brotman *et al.* (US 5,917,889), hereinafter Brotman *et al.*

(889).

As to claim 1, Brotman *et al.*(890) teaches a method for

receiving a first spoken alphabetic character input from a user (see Figure

2, element 110);

passing the first spoken alphabetic character input received from the user

through a speech recognition engine (see Figure 1, element 940 and col. 3, line

33-35) (e.g. It should be noted that it is inherent that the speech recognition as

mentioned by the reference will recognize the utterance in order to understand

the input, which will enable the same behavior as that by the applicant);

at the speech recognition engine, recognizing the first spoken alphabetic

character input (Col. 3, line 47-48) received from the user;

querying the user for verification that the recognized alphabetic character

input is the same (Col. 3, line 47-49) as the first spoken alphabetic character

input (e.g. It should be noted that it is inherent that user verification is needed for

the process of the next character input to continue as mentioned by the

reference);

if the recognized alphabetic character input is not the same as the first spoken alphabetic character input received from the user (see col. 3, line 51-52), receiving from the user a dual tome multi-frequency (DTMF) key tone for each of one or more first spoken alphabetic characters received from the user (see col. 3, line 52-55);

if one alphabetic character string associated with the DTMF key tones received from the user matches the first spoken alphabetic character input received from the user matches the first spoken alphabetic character input received from the user, designating the one alphabetic character string associated with the DTMF key tones (see col. 3, line 54) received from the user that matches the first spoken alphabetic character input received from the user as a correct alphabetic character input (see col. 3, lines 55-57).

prior to receiving from the user a DTMF key tone for each of the one or more spoken characters input by the user as a correct alphabetic character input requested from the user: determining whether an alphabetic character string associated with the DTMF tones (see col. 5, lines 5-7) received from the user sounds like the first spoken alphabetic character input (see Col. 5, lines 20-23); and querying the user to determine whether the alphabetic character string associated with the DTMF key tones (see col. 5, line 40 and lines 41-43) received from the user match the first spoken alphabetic character input received from the user.

if more than one alphabetic character string is determined to be

associated with the DTMF key tones (see col. 5, lines 5-7) received from the user

that sound like the first spoken alphabetic character input received from the user

(see col. 4, lines 14-15),

comparing the second alphabetic character input received from the user to

each of the more than one alphabetic character strings determined to be

associated with the DTMF key tones (see col. 5, lines 59-61) received from the

user that sounds like the first spoken alphabetic character input (see col. 5, line

57) received from the user; and

if the second alphabetic character input received from the user matches

one of the more than one alphabetic character strings determined to be

associated with the DTMF key tones received from the user (see col. 5, line 59),

designating the alphabetic character string associated with the DTMF key tones

that matches the second alphabetic input received from the user as a correct

alphabetic character (see col. 5, line 60-62 and line 45 and Figure 3 elements

220, 260, 270, and 120).

However, Brotman et al. (890) does not specifically teach the input of

comprising plural alphabetic characters.

The cited Meador et al. reference is in the same field of endeavor as the

Brotman et al. (890) reference since it is directed towards directory assistance.

Meador et al. teaches inputting a plurality of input characters from a user and

performing verification for the correct input characters (see col. 3, lines 40-45 and

col. col. 4, lines 21-41) (e.g. In this cited section, the user is inputting a location

name. The name is compared to the set of phoneme strings (e.g. which can be

characters) and if the probability is not over a threshold the spell out the location.

It would have been obvious to one of ordinary skilled in the art at the time

the invention was made to have combined the improving alphabetic speech

recognition as taught by Brotman et al. (890) with the inclusion of words as input

consisting of characters as taught by Meador et al. The motivation to have

combined the two references involve the savings in time with regard to locating

the user's request without error (see Meador et al., col. 4, lines 50-65) as would

benefit the teachings of Brotman et al. (890), where the input is character by

character.

However, Brotman et al. (890) in view of Meador et al. do not specifically

teach the request of additional input in order to determine the correct character.

Brotman et al. (889) does teach receiving a spoken input (see col. 6, line

60-61) of the alphabetic character input from the user (see col. 4, lines 16-22);

comparing the spoken alphabetic character input received from the user to each

of the more than one alphabetic character strings determined to be associated

with the DTMF key tones received from the user (see col. 5, lines 1-24); and if

the spoken alphabetic character input received from the user matches one of the

more than one alphabetic character strings determined to be associated with the

DTMF key tones received from the user , designating the alphabetic character

string associated with the DTMF key tones that matches the spoken alphabetic

input received from the user as a correct alphabetic character (see col. 5, lines 8-24) .

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have combined the improving alphabetic speech recognition as taught by Brotman *et al.*(890) in view of Meador *et al.* with the inclusion of a second input of an uttered character as taught by Brotman *et al.* (889). The motivation to have combined the two references involves the further disambiguation of the DTMF string by the use of uttered characters in order to determine the correct character (see Brotman *et al.* (889), col. 5, lines 8-17). Hence, the ability to speak the utterance the second time would be obvious for the purposes of disambiguating from the set of allowable characters.

As to claim 15, Brotman *et al.*(890), Meador *et al.*, and Brotman *et al.* (899) teach all of the limitations as in claim 1.

Furthermore, Brotman *et al.* (890) teaches a method prior to receiving from the user a DTMF key tone for each of the one or more spoken characters input by the user:

prompting the user for a DTMF key tone (see col. 4, line 57) for each of the one or more spoken alphabetic characters input by the user (see col. 4, line 58); and

querying the user to verify that the DTMF key tone received from the user is correct (see col. 5, line 40 and lines 41-43).

6.   Claims 2-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Brotman *et al.* (890) in view of Meador *et al.* in view of Brotman *et al.* (889) as applied to

claim 1 above, and further in view of Hartley *et al.* (US 6,910,012).

As to claim 2, Brotman *et al.* (890) in view of Meador *et al.* in view of Brotman *et

al.* (889) teach the improvement of alphabetic speech recognition as in claim 1.

However, Brotman *et al.* (890) in view of Meador *et al.* in view of Brotman

et al. (889) do not specifically teach the use a grammar definition defining a set of

alphabetic characters acceptable to speech recognition engine.

Hartley *et al.* teaches the use of grammars (see col. 6, line 18) to define a

set of alphabetic characters (see col. 6, line 26) to the speech recognition engine.

It would have been obvious to one of ordinary skilled in the art to have

modified the speech recognition engine shown by Brotman *et al.* (890) in view of

Meador *et al.* in view of Brotman *et al.* (889) by a grammar as shown by Hartley

et al.. The motivation to combine the two references would be to increase the

matching of the spoken utterance (see Hartley *et al.*, col. 2, line 32-33) and limit

the number of characters by the speech recognition system.

As to claims 3 and 4, Brotman *et al.* (890) in view of Meador *et al.* in view of

Brotman *et al.* (889) teach all of the limitations as in claims 1 and 2.

Furthermore, Brotman *et al.* (890) teaches a system that uses alphabetic

(see abstract) letters for input by user (see Figure 2, element 110) in a speech

recognition engine. (e.g. It should be noted that the reference does not specifically state the letters of the alphabet, the reference incorporates the English alphabet as input to the speech recognizer. It would be obvious to include the letters a-z in the alphabet).

As to claims 5-7, Brotman *et al.* (890) in view of Meador *et al.* in view of Brotman *et al.* (889) in view of Hartley *et al.* teach all of the limitations as in claims 1-4.

Furthermore, Hartley *et al.* teaches the inclusion of phonetic versions of alphabetic characters in the grammar (see col. 2, lines 21-24). It should be noted that these letters are included along with the original alphabet (see col. 6, lines 18-21 and col. 4, lines 22-28).

As to claims 8-10 Brotman *et al.* (890) in view of Meador *et al.* in view of Brotman *et al.* (889) in view of Hartley *et al.* teach all of the limitations as in claims 1 and 2.

Furthermore, Brotman *et al.* (890) teaches a method whereby the alphabetic character input received involves the use of DTMF key tones (see col. 5, line 5), which include numbers (see col. 5, line 6). It is inherent for a telephone keypad to include numbers 1-9.

As to claim 11, Brotman *et al* .(890) in view of Meador *et al.* in view of Brotman *et al.* (889) in view of Hartley *et al.* teach all of the limitations as in claims 1, 2, and 8-10.

Furthermore, Hartley teaches including a set of all alphabetic characters in a grammar (see col. 6, line 18). However, Hartley et al. does not specifically teach the use of DTMF key tones. Brotman et al. (890) teaches the use of DTMF key tones and the characters associated with the DTMF keys. This could be included in the grammar file to be recognized by the speech recognition unit. The motivation to include the DTMF signals in the grammar is for disambiguation (see col. 3, line 53-54).

As to claim 12, Brotman et al .(890) in view of Meador et al. in view of Brotman et al. (889) in view of Hartley et al. teach all of the limitations as in claims 1.

Furthermore, Hartley et al. teaches a method converting the alphabetic character input from digital to audio format (see col. 5, line 44-50) (e.g. it should be noted that the digitized signal from the speech recognition engine is transformed into an analog signal for future voice recognition stages (voice applications).

As to claim 13, Brotman et al. (890) in view of Meador et al. in view of Brotman et al. (889) in view of Hartley et al. teach all of the limitations as in claims 1 and 12.

Furthermore, Brotman et al. (890) teaches the verification of the character input is the same as that of the spoken character (see Figure 2, elements 140 and 150).

As to claim 14, Brotman *et al* .(890) in view of Meador *et al.* in view of

Brotman *et al.* (889) in view of Hartley *et al.* teach all of the limitations as in claims 1, 12,

and 13.

Furthermore, Brotman *et al.* (890) teaches the use of a telephone for the

presentation of the recognized character (see col. 2, line 33 and col. 3, line 6-8)

(e.g. It is inherent that a telephone includes such signals as voice and DTMF key

signal. Further, the reference uses the telephone as the communication mode).

7.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brotman

et al. (890) in view of Meador *et al.* (US 5,638,425) and further in view of Hartley *et al.*

and in view of Brotman *et al.* (899).

As to claim 20, Brotman *et al.* (890) teaches a system for alphabetic speech

recognition comprising:

a speech recognition engine (see Figure 1, element 940 and col. 3, line

33-35) (e.g. It should be noted that it is inherent that the speech recognition as

mentioned by the reference will recognize the utterance in order to understand

the input, which will enable the same behavior as that by the applicant);

receive a first spoken alphabetic character from a user (see Figure 2,

element 110);

query the user for verification that the recognized alphabetic character

input is same as the spoken alphabetic character (see col. 3, line 47-49);

receive from the user a DTMF key tone for each spoken alphabetic

character input from user if recognized character is not the same (see col. 4,

lines 52-55 and Col. 5, lines 5-28);

designating an alphabetic character associated with the DTMF key tone

that matches the alphabetic character input from user (see col. 5, lines 24-33)

(e.g. It is shown in the reference that the DTMF signal is matched to that of the

stored signal representing spoken character. Once one has been eliminated the

next stored signal is compared).

if more than one alphabetic character string is determined to be

associated with the DTMF key tones (see col. 5, lines 5-7) received from the user

that sound like the first spoken alphabetic character input received from the user

(see col. 4, lines 14-15),

comparing the second alphabetic character input received from the user to

each of the more than one alphabetic character strings determined to be

associated with the DTMF key tones (see col. 5, lines 59-61) received from the

user that sounds like the first spoken alphabetic character input (see col. 5, line

57) received from the user; and

if the second alphabetic character input received from the user matches

one of the more than one alphabetic character strings determined to be

associated with the DTMF key tones received from the user (see col. 5, line 59),

designating the alphabetic character string associated with the DTMF key tones that matches the second alphabetic input received from the user as a correct alphabetic character (see col. 5, line 60-62 and line 45 and Figure 3 elements 220, 260, 270, and 120).

However, Brotman et al. (890) does not specifically teach the conversion of the character input from audio to digital format and the input of plural spoken alphabetic characters.

Meador et al. teaches inputting a plurality of input characters from a user and performing verification for the correct input characters (see col. 3, lines 40-45 and col. col. 4, lines 21-41).

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have combined the improving alphabetic speech recognition as taught by Brotman et al. (890) with the inclusion of words as input consisting of characters as taught by Meador et al. The motivation to have combined the two references involve the savings in time with regard to locating the user's request without error (see Meador et al., col. 4, lines 50-65) as would benefit the teachings of Brotman et al. (890), where the input is character by character.

Hartley et al. does teach a method of digitizing the spoken utterance for input into the speech recognition engine (see col. 6, line 60-61).

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have combined the improving alphabetic speech

recognition as taught by Brotman *et al.* (890) in view of Meador *et al.* with the inclusion of the audio to digital converter when presenting the signal to a speech recognition device as taught by Hartley *et al.* The motivation to modify the speech recognition system with the digitizer shown by Hartley *et al.* is for analysis by speech recognition system (see Hartley *et al.*, col. 1, line 26).

However, Brotman *et al.* (890) in view of Meador *et al.* in view of Hartley *et al.* do not specifically disclose the request of additional input in order to determine the correct character.

Brotman *et al.* (899) does teach receiving a spoken input (see col. 6, line 60-61) of the alphabetic character input from the user (see col. 4, lines 16-22); comparing the spoken alphabetic character input received from the user to each of the more than one alphabetic character strings determined to be associated with the DTMF key tones received from the user (see col. 5, lines 1-24); and if the spoken alphabetic character input received from the user matches one of the more than one alphabetic character strings determined to be associated with the DTMF key tones received from the user , designating the alphabetic character string associated with the DTMF key tones that matches the spoken alphabetic input received from the user as a correct alphabetic character (see col. 5, lines 8-24) .

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have combined the improving alphabetic speech recognition as taught by Brotman *et al.* (890) in view of Meador *et al.* in view of

Hartley *et al.* with the inclusion of a second input of an uttered character after

DTMF input as taught by Brotman *et al.* (899). The motivation to have combined

the two references involves the further disambiguation of the DTMF string by the

use of uttered characters in order to determine the correct character (see

Brotman *et al.* (899), col. 5, lines 8-17). Hence, the ability to speak the utterance

the second time would be obvious for the purposes of disambiguating from the

set of allowable characters.

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paras Shah whose telephone number is (571)270-1650.

The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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P.S.

02/12/2008

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER